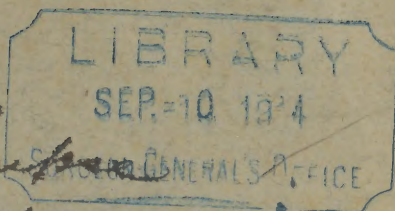


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~~SPANISH~~ MEDICINE *in Spain*

BY

RUDOLPH MATAS, M. D.

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A glimpse at

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Spain.

It rarely happens that a medical tourist wanders from the banks of the Mississippi, and especially from New Orleans, to this part of the world, and particularly, if the purpose of his travel be that of scientific enlightenment, or even the simple gratification of medical curiosity. The great itinerary of the medical men who leave America with the view of increasing the wealth of their professional ideas is usually London, Edinburgh, Dublin, Paris, Vienna or Berlin. In other words, Great Britain, France, Austria, Germany, and maybe Switzerland and Italy are the countries of the Eastern world where the American student believes he can find institutions worthy of his homage.

To the American physician, Spain offers few inducements. The distinguished men of the country are so seldom heard of across the ocean, whereas, the names of English, French, German, Austrian, Swiss, and even Italian leaders are almost as familiar as those of the great men at home; besides, the original scientific work done in Spain is so rarely quoted and discussed, or is so silently done that its existence is justly doubted. Furthermore, Spanish names so seldom appear on the rolls of the great international assemblies of medical men, and their institutions of science appear so indifferent of representation abroad that it is not surprising that Americans are rarely tempted to cross the Pyrenees with the view of increasing their acquaintance with their Spanish *confrères*.

I must admit that, prejudiced in a great measure by similar opinions in regard to Spain as a land of scientific promise, I would not have undertaken this extended pilgrimage with the sole purpose of contributing my devotions to its Esculapian shrines. Other motives, however, compelled this visit, and afforded an opportunity for an investigation which, if limited and only sectional thus far, has been sufficient to improve my notions of Spanish medical resources, and to acquaint me with men whose ability and representative character have served to develop a sincere respect and higher appreciation for the institutions which they represent.

Thus far I have only traveled in Catalonia, and most of my time has been spent in this city, the great metropolis of the province, Barcelona. Barcelona itself, after Madrid, is the largest and most popular educational and medical center in the Spanish peninsula. This you can easily appreciate when you consider the commercial prestige of the city and its advantageous geographical position, which have tended to make it the wealthiest and most attractive metropolis, after the national capital, in Spain.

In the last twenty or thirty years Barcelona has increased enormously, not only as regards its topographical limits, but also in its population. For instance, according to the census of 1869, there were 193,493 inhabitants; in 1873, there were 353,583, and in 1883 the population was estimated at 450,000 or 460,000. From this item you can readily appreciate the rising importance of this city in Spain, and can safely consider its educational institutions as among the most representative in the country.

I would like very much to give you a complete account of Barcelona as a medical center; to present if only a brief sketch of all those institutions that have a medical interest, such as the numerous charities, infirmaries, and asylums, of which there are many, but as your space is limited and your time precious, I will only busy myself with what is more important, and even this very cursorily.

THE MEDICAL COLLEGE OF BARCELONA.

This is at present the Medical Department of the celebrated University of Barcelona, which traces its origin as far back as the XIII century, and in the *alma mater* of the most distinguished Catalonian statesmen and literati. It was in this University that Don Antonio de Gimbernat, of anatomical fame, taught anatomy and prosecuted his original researches on hernia. The Medical Department is a separate building, quite a distance from the University proper, and is attached to the *Hospital de Santa Cruz*, the largest charity of this city, where the students are advantageously situated for purposes of clinical instruction. The Medical College was founded by Dr. Pablo Virgili, Surgeon to Charles III of Spain, who, in recognition of important surgical services to himself, granted his attendant the privilege of founding a medical school in Barcelona. The building was erected in 1760, and was known as the "*Colegio de Cirugia*," until 1795, when the name was changed to the "*Colegio de Cirugia Médica*." In 1797 it changed its name to that of "*Colegio de la Facultades Unidas*," which it retained until 1827, when it adopted its present title: "*Colegio de Medicina y Cirugia*." The school as it exists at present is insufficient to satisfy the needs of the large and increasing classes that yearly gather in Barcelona to attend the course of lectures, and, in consequence, a new college building and hospital have become an urgent necessity. A plan of the new building has already been made and accepted by the faculty, and after the location is definitely settled the building will be constructed.

We trust that the new College will be worthy of the University, which is a new and admirably constructed building—a real marvel of architectural beauty and academic style.

The Medical College, as it exists at present, is much smaller than the Medical Department of Tulane

University, and judging by its size alone, it is difficult to conceive how it can even admit the 610 alumni who attended the lectures during the last session of 1884-5. Though the College is closed at present, and almost all the professors were out of the city, on account of the vacation, I was permitted to examine the whole building very thoroughly, and noticed this want of space in each department. When we consider however, that the course here is graded throughout, and that the classes are all broken up into small sections by the many branches of the curriculum, we can readily understand how easy it would be to accommodate a large class of Spanish students, where it would be impossible to accommodate one-half or one-third the same number of Americans, who attend the lectures simultaneously or *en masse*, without breaking up into classes of 1st, 2d, 3d, 4th, 5th and 6th coursemen, as is done here. But to return to the College building. The largest hall in the building is the Anatomical amphitheatre, where the didactic lectures on anatomy and surgery are delivered. The Amphitheatre is circular, and measures about 11 meters, across the floor, or arena. The benches are arranged in five grades, and can accommodate over 200 students. The hall is surmounted by a glass dome, which admits plenty of light and air. In a crypt in the wall, there is an excellent marble bust of the founder, Dr. Virgili. Opposite this hall is the dissecting room, which I must say is decidedly inadequate for its purpose. I counted in all about 13 tables for subjects, and supposing that the room could accommodate 20, which I fear would be impossible, we can easily conceive of the difficulties of giving a solid *practical anatomical* education to a class of 600 men with such scant material. The light and ventilation are also bad. Anatomical material is scarce here, notwithstanding the large hospital close by, because there is no *official* obligation on the part of the hospital authorities to supply subjects to the College. The museum, which is a dependency of the Anatomical department, has been re-

moved to the University building, but it is very poor as a whole, and cannot compare with the museum in Tulane University.

In the second floor there are lecture rooms for the Professors of Therapeutics and Materia Medica, Physiology, Obstetrics, Medical Jurisprudence and Toxicology, all of them constructed on very much the same plan as those of our College, only about one-third smaller. The cabinet of Materia Medica contains over 2,000 specimens and a good collection of pharmaceutical utensils. The Toxicological cabinet is well supplied with reagents and the apparatus needed for the detection of poisons. The Physiological cabinet, which adjoins the preceding two is divided into two sections, one for vivisections and the other for microscopic studies. It contains quite a collection of microscopes, but they are mostly obsolete or antique instruments. The Histological department is of new construction, but as the specimens and instruments had been put away during the vacation, I was not able to examine any of the preparations. In the Physiological apartment there is quite an assortment of vivisectional appurtenances, among which I noticed Claude Bernard's large table for experiments, and several registering cylinders. There are aquaria for frogs, and crates for dogs, rabbits and guinea pigs. The Surgical cabinet is also supplied with a collection of instruments, but they reminded me very much of the antique surgical arsenal in our museum. This is more of historical interest than of a practical value.

There is a Studio connected with the College, that will be worth imitating some day in our schools. It is a sculptor's cabinet. In this room impressions and casts are taken of remarkable pathological specimens such as tumors, and casts of patients before, and after, important operations. In this way permanent and artistic records of the work done in the school and hospital are kept, greatly to the advantage of the museum.

There is a special medical artist who is in charge of this department, and is a salaried member of the faculty.

Chemistry and Physics are not studied in the Medical College, but in the University proper these branches receive special attention, as they belong to the Academical course and are required as preliminary studies. Thus we find that the medical student when once admitted into the Medical department is not obliged to waste his time on the very A B C of the physical science, but he is taught to develop and perfect the elements received in the Academical department so that he may apply them to the exigencies of his practice.

The Library of the College contains over 4,000 volumes for the use of students and practitioners. It contains many ancient tomes on Spanish medicine and the older classic authors, many of them bearing a date older than the XVI century. Some of these were expurgated by the Holy Office—the Inquisition—which condemned as sacriligious many of the books which dealt with the generative functions.

The Examining Hall, or “Green Room,” as our students would call it, is a sombre apartment well calculated to test the moral courage of the aspirants. The examinations are open to the public, and the student is exposed to the gaze of his fellow students and friends, who sit in long rows of antique chairs. The tribunal or committee of examiners sits on a platform overhung by damask curtains that give the whole apartment a judicial character. The effect, I presume, is very much increased by the solemn dress of the professors who still cling to the long academical gowns and mantles. The whole affair would doubtless cause an American unaccustomed to such ceremony, to feel very much as if he were about to be tried by a Council of Grand Inquisitors preparatory to the delights of an *auto de fe*.

In a country where mediævalism left so deep an impress as in Spain, it is not surprising that all official acts

and ceremonies are attended, even to day, with a certain solemnity and spectacular gravity that must appear strange and even queer to one accustomed to our republican simplicity. There is no doubt, however, that in Spain and in the rest of Europe these peculiarities are gradually disappearing and that the peculiar academic costumes etc, are being relegated to the records of history. I understand that some of the professors are beginning to cast them off as useless anachronisms.

The College session lasts eight months, beginning in October and ending in June. The course of study required to obtain the degree of "Licentiate in Medicine" covers a term of six (6) years including one year of *ampliacion* or preparatory study. But it must be remembered that the medical student in Spain must present before he is allowed to matriculate as a medical student, a diploma certifying that he has been graduated a bachelor of Arts in the University of Barcelona or in some other creditable university of Spain. So that the college life of a medical student must, if we sum up the years required to obtain both the academical and professional degrees, amount to 12 years! Luckily for the medical student, who is as inpecunious as elsewhere, his medical education is, comparatively speaking, cheap, though still dear from the Spanish standpoint.

I have been officially informed that there are twenty four (24) branches of study embraced in the medical course which signifies as many classes of lectures or professor's "tickets." Of these 24 tickets, 4 are included which belong to the preparatory course embraced in the study of chemistry, physics and natural history. The student takes a certain number of tickets every year and at the end of each session he is examined in the particular branches which they cover. If, during the six years which follow his matriculation he has proved himself a diligent student and has successfully passed the annual examinations, he is supposed to have gone through all the branches or "*asignaturas*" and is allowed to appear as candidate for the "*Li-*

cenciatura’ or degree. It appears that the student in Spain as elsewhere, is very often a jolly, good fellow who loves a “nice time,” etc., in which case he is very likely to be dropped for a year or two, and sometimes more, so that it is not at all rare to see students who have sat on the benches seven, eight and even ten long years before they have been granted the degree. Each “*asignatura*” or ticket costs about six dollars, so that the 24 tickets would cost at the end of the course, \$144.00. The diploma costs \$10.00, and the Government license in addition costs \$154.00 so that the cost of medical tuition alone would sum up to \$308.00. If we add to this the expense of anatomical material, books and instruments, we could estimate the total cost of a medical education at 400 or 450 dollars.

This estimate, of course, alone covers the cost of the *Licenciatura* which allows the graduate to practice. The degree of *Doctor* of Medicine requires a separate course of study, one year more, as a rule, and the presentation of a Thesis which must be printed and *defended* before the Faculty in the Central University in Madrid. This, of course, involves additional hard work and expense which is far from agreeable to the majority of practitioners who are usually satisfied with the degree of *Licentiate*. It is very fortunate for the medical students of this country that life is very cheap; I learn, in fact, that a medical student of economical tendencies, or who is so forced to be by necessity, can live quite comfortably with 10 reals daily or an allowance of 15 dollars a month. With this amount I do not doubt, with my knowledge of the country, that he can board, lodge, wash, smoke and attend to a number of other wants which are especially known to students. If it is in this respect alone, I need not add that a Spanish student is a luckier fellow than his American brother. I would like to dwell more at length on Spanish student life, to examine it in its multiple and interesting phases; to study the student socially, intellectually and comparatively, for he is a historic feature of Spanish so-

ciety ; he is indeed an original character and possesses an individuality which has given him not only a national but a world-wide celebrity. It is here, in Spain,—the great land of legend and of romance,—that he is great,—here, his virtues, his loves and even his vices have been sung by the most melodious versifiers and have furnished themes for more than one delicious poem and imperishable romance. But this is a medical journal and I have already exceeded the boundaries of epistolary propriety. I must, therefore, restrict myself to what is strictly professional.

I cannot neglect to mention a very interesting feature of medical education in which Spain, in common with France, Germany and other European governments, differs radically from the United States, and that is in the status of the professors. It is in this respect that Europe is unmistakably ahead of us, and it is in this department that our educational system must undergo a reform, and in this direction that the first step must be taken if we are to solve the vexed question of medical education.

In Spain, the government is the supreme controller of the higher branches of education. The professors of all the Universities are *ipso facto* government officials who receive their pay and are under the supervision of the government. The Professorial Corps is divided into eight classes and salaries are paid according to the class to which the professor belongs. The rank of each professor is determined by his term of service, the first elected beginning with the lowest class, (the 8th), and ending with the first. The promotions from one class to another are determined by the vacancies that occur. The salaries are also graded by the classes to which the professors belong, those of the lowest class receiving 14,000 reales, or \$540 per annum, whilst those in the highest are paid 40,000 reales or \$2000 per annum.

The professors are all elected by competitive examination whenever vacancies occur in any of the Universities,

and the applicants may apply from any section of the country, so that a professor is often elected to teach in a community with which he is totally unacquainted.

There were formerly free or self supporting colleges, but these have been completely done away with, so that at present all the Universities of Spain are under Government control. This system is unquestionably superior to our own, but how can our Government, as at present constituted, ever venture to centralize and control in like manner, the higher educational institutions of the entire country?

As regards the status of foreign graduates who may wish to practice in Spain, the laws are also different from those of the United States, where they vary according to the State where the practitioner may wish to practice. In Barcelona, if a foreigner desires to enjoy all the privileges and advantages of his Spanish colleagues, he must pass an examination before the Faculty, but by paying the sum of \$200 annually, he is also allowed to practice, to sign death certificates, and to collect bills, which is about as much as a foreigner would usually care to do. He is not allowed to give expert testimony, or to apply for a professorship, or enjoy other honors, unless he undergoes the regular examination.

I could devote a good deal of space, and consume much more of your time, and perhaps interestingly, by comparing the emoluments of practice in our country with those obtained in Spain. It will suffice to state that a practitioner in this city, and in Spain, is not insulted by being offered a peseta, or 20 cents, for a visit à *domicile*. This is almost as cheap, though not quite as low as the pay given by some of our benevolent societies in New Orleans. On the other hand, surgical and obstetrical services are proportionately well compensated.

As already stated, there are several important charitable institutions, prominent among which are the *Hospital de Santa Cruz*, the oldest and largest in the Province of

Catalonia. It was founded in 1229, through the bequest of a benevolent priest named Colom. It was originally a comparatively small building, but since that time several of the hospitals which were situated close by, have been added to it. So that at present it is a large edifice, covering an area of 17,135 meters. It is exceedingly dilapidated, so that as a hospital building it is really a poor concern. The hospital has a capacity for 600 patients, though it usually admits a great many more than it should hold. During the five years from 1860 to 1865, the average number of patients treated annually was 175,542. The daily average was 480.3; the mortality 13.25 per cent. The average cost of each patient was estimated at that time at 1.092 pesetas, about 20.9 cents. In the years 1882 and '83 the yearly average of patients treated was estimated at 233,924, the daily average, 640.88; mortality 11.76 per cent.

The Hospital is divided into sections and wards for surgical, medical, gynæcological, obstetric, ophthalmological and other cases. The Hospital is managed by a Board consisting of two priests who represent the legatees, and two members of the City Council. The Management of the establishment i. e., the Executive, is represented by a Curate who bears the title of Prior. The Medical Staff consists of 10 visiting physicians. Five Professors and three other adjuncts are, in addition, given a permanent clinical service. There is a chief druggist with 16 assistants. There are 10 internes, and 25 externes. There are 40 Brothers and 25 Sisters of Charity, who, assisted by other lay nurses, directly attend the sick.

The Hospital is supported partially by its own revenues and by a state appropriation. In 1882 the income for that year amounted to 600,000 pesetas or 120,000 dollars. This sum is inadequate to meet the expenses of the establishment and insufficient to allow the Board of Managers to carry out the improvements much needed to better the institution.

I cannot stop to examine the hospital critically; the defects are very apparent even to a most superficial examination, and the buildings, as a whole, are of an obsolete type of architecture which is incompatible with the principles of modern hospital construction. Of the medical service I can say little, as I came in a very unfavorable season to see the leading teachers at work, or to judge of the most representative methods of instruction and of treatment as adopted in this country. In the surgical wards, which especially interested me, there appeared to be a great dearth of material. All the leading operators were out of the city on vacation, and it seems that the patients knew it for there were very few in attendance at the clinics. The result of several recent operations were exhibited to me, which showed a progressive appreciation of the latest advances in surgery and spoke favorably of the skill of the operators. There were several cases of osteotomy for *genu valgum* treated by MacEwans and Ogston's operations, several excisions of joints mostly by Ollier's methods, and various amputations with good results.

The Internes, who, I will state parenthetically, were very intelligent and courteous, informed me that the results had been much better since Listerism had been rigorously adopted, and from what little I could see aseptic dressings were pretty systematically applied.

Chloroform is generally used in the hospital for anæsthetic purposes, though the surgeons admitted the *theoretical* superiority of ether,

The best hospital that I have inspected in Barcelona and which bears out its excellent local reputation is the "*Hospital del Sagrado Corazon*," a charitable institution founded almost exclusively by the private enterprise of several wealthy ladies of this city.

This hospital, including the grounds, covers an area of 5,219 meters. It is altogether of modern construction and though far from possessing all the comforts and advantages which characterize similar institutions in the States, even in

New Orleans—the Hotel Dieu, for instance—it is a very safe and creditable institution. It has only a capacity for 120 beds, but it has an outside clinic which attends about 2000 patients annually. The medical staff consists of a director, Dr. Cardenal, who visits the wards twice a week, a resident physician, and a corps of 8 or 10 visiting physicians, surgeons and specialists, who attend to the policlinic. All the medical officers, including the directors, attend to their duties gratuitously.

I was particularly pleased with the cleanliness and general neatness of this hospital, which is in charge of the Sisters of Charity, who in this, as in most of the European hospitals, do not confine their work to the purely administrative and domestic departments, but do regular nursing besides. I was shown two cases of supra-pubic cystotomy, one for stone and the other for a villous growth of the bladder; in both instances the patients were relieved. A case of excision of the knee-joint, and one of ovariectomy. Both with excellent results. I noticed quite a number of arthropathies, mostly strumous joints, which are very frequent, I am told, in Spain. The first *successful* ovariectomy in Barcelona, was performed in this hospital, in 1882, by Dr. Cardenal, though the credit of the first operation belongs to Dr. Farreras, who operated with unfortunate results in 1880. According to Dr. Fargas, who is one of the most successful ovariectomists in Spain, and certainly one of the leading operators of this city, this operation was first performed in Spain in 1863, by Dr. Federico Rubio, of Madrid. Dr. Cardenal is an enthusiastic Listerite, and carries out the principles of Antisepsis and Asepsis to the very letter in all his operations. He is at present at work finishing a valuable work on Antiseptic Surgery, which has already been issued by subscription, and which I am confident will be one of the best contributions made in recent years to Spanish medical literature.

A notable feature of this work is that a knowledge of foreign literature, especially German and English, is dis-

played, which enables the author to place before his readers the most advanced and authoritative teachings of the day. This leads me to note the fact that there is a very marked tendency on the part of the present generation of Spanish writers to increase their acquaintance with German and English authors, and though American medical writers are not as well known as they should be, still even they, I believe, are being gradually popularized and respected, especially since Ashurst's International Encyclopædia of Surgery has been translated into Spanish, and has given the medical *cognoscenti* of this country an idea of what could be done in America.

But of all the visits that I have made, none have afforded me more pleasure or given me a better opportunity of estimating the ability and tendencies of the rising generation of Spanish physicians, than my visit to the private microbiological laboratory of Dr. Carreras-Aragó, the Nestor of Catalanian ophthalmologists. The laboratory is in charge of Dr. Carreras' talented sons, who have perfected their education in Germany, France and Switzerland, where they have studied under Koch, Cornil and Klebs. I was surprised to see such a complete and expensive microscopic and mycological outfit in a private residence. Nothing was wanting in the way of apparatus to conduct the most difficult microbiological investigation. Among the notable instruments noticed was a stand and complete microscopic outfit from Zeiss' establishment, including a set of lenses and the costly 1-18th inch objective. A complete micro-photographic outfit, which is used very frequently in the laboratory, and various culture stoves of the Koch and Pasteur models. The histological cabinet was exceptionally rich in rare and difficult sections and contained, in all, several hundred specimens. The laboratory has been established only recently, but excellent work has been done already in the study of neoplastic formations. The bacillus tuberculosis is at present under investigation, and Dr. Carreras-Solá has already collected over 315 observations and will soon publish some

interesting deductions. It was in this laboratory that Dr. Ferran, of cholera fame, performed some of his later experiments and studied the development and natural history of the comma-bacillus. Dr. Ferran, himself, lives in Tortosa but he is a frequent visitor in Barcelona where he is held in great respect and esteem in the best professional circles. I was shown, in this laboratory, a very recent collection of micro-photographs made by himself, of his cultures of Koch's cholera bacillus, which alone prove him to be no ordinary microscopist. He is at present preparing a work on the history and development of the comma-bacillus and its prophylactic value as a cholera vaccine. This work will, I do not doubt, tend to correct many misapprehensions in regard to Ferran's status as a microscopist and scientific observer. I have seen some of his work and judging alone by the information I have gleaned from many trustworthy sources, I am satisfied that he is not the charlatan that he has been represented to be. He may have erred as regard the prophylactic value of his bacillus inoculations, but if he has, he has made an honest mistake such as any other competent man might make. The truth is, that if we are to judge alone by statistical data, there are very strong reasons to believe that his prophylactic inoculations did exercise some preventive influence during the late cholera epidemic, but the figures are, in themselves, insufficient to completely prove the point, and we must wait the appearance of his work, in which he will doubtless enlighten us on many mooted questions.

I have notes of several additional medical institutions, and of other matters relating to medical education and medical literature in Spain, but I have already imposed so much on your indulgence that I will close, and reserve, perhaps for a future occasion, facts of medical interest that I have collected, or that I may collect, while in my tour through the *Iberian Peninsula*.

In conclusion, I would add, that, as a result of my pres-

ent investigations, I am convinced that medicine in Spain is rapidly rising to a high scientific level, and that if we are to trust to the promising signs given by the present generation of medical men, we must even believe that a great future is reserved for it. In a country, however, where political earthquakes are so frequent, and where they shake to their very foundations the oldest and strongest edifices, we can never venture to prophecy the future of any structure, no matter by what architects erected.

RUDOLPH MATAS, M. D.

BARCELONA, SPAIN, August 15, 1886.